COMMONWEALTH OF AUSTRALIA

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Warning

CHARLES DARWIN UNIVERSITY

Family Name	
Given Names	
Student Number	
Teaching Period	Semester 2, 2016

FINAL EXAMINATION	**DURATION**
PSY347 – Advanced Research Design and Analysis	Reading Time: **10** minutes Writing Time: **180** minutes

INSTRUCTIONS TO CANDIDATES

The examination has **three** sections

Section A: Suggested Time: 60 minutes	**Multiple Choice Questions**: Answer ALL (60) questions 30 Marks
Section B: Suggested Time:60 minutes	**Short Answer Questions**: Answer 6 of 6 questions 30 Marks
Section C: Suggested Time: 60 minutes	**Short Essay Questions:** Answer 2 of 2 questions 40 Marks

Please ensure that your name and student number are clearly indicated on your Answer Sheets and at the top of this examination paper.

1.2 Note that questions **ARE NOT** of equal value.
1.3 Read **ALL** questions carefully.

EXAM CONDITIONS

You may begin writing from the commencement of the examination session. The reading time indicated above is provided as a guide only.

This is a CLOSED BOOK examination

Any calculator is permitted

No handwritten notes are permitted

No dictionaries are permitted

ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED
No additional printed material is permitted	1 x 8 Page Book 1 x 4-Multiple Choice Answer Sheet 6 x Scrap Paper

THIS EXAMINATION IS PRINTED DOUBLE-SIDED.

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Section A
Multiple Choice Questions
Total No of Marks for this section: 30 Marks

This section should be answered on the Answer Sheet provided. Please ensure that your name and student number have been written on the Answer sheet and placed in the completed answer Booklet.

Marks for each question are indicated. Suggested Time allocation for Section A: 60 mins

Section B
Short answers
Total No of Marks for this section: 30 Marks

This section should be answered in the Answer Booklet provided.

Marks for each question are indicated. Suggested Time allocation for Section B: 60 mins

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Question 1
What is the difference between a quasi-experimental design and correlational study?

(Marks: 5)

Question 2
Why should a researcher inspect a scatterplot? Briefly describe at least two reasons.

(Marks: 5)

Question 3
What is an interaction and how is one identified?

(Marks: 5)

Question 4
What is the *F*max test and under what circumstances would a researcher need to use and interpret the test?

(**Marks: 5)**

Question 5
If a researcher computes a scales and finds the scale has low reliability, describe what she could do or check to improve the reliability before proceeding with the analysis?

(**Marks: 5)**

Question 6
Briefly describe two of the assumptions that should be satisfied before interpreting an exploratory factor analysis and how they are checked.

(**Marks: 5)**

Section C
Short answers - Interpretation of Results
Total No of Marks for this section: 40 Marks

This section should be answered in the Answer Booklet provided.

Marks for each question are indicated. Suggested Time allocation for Section C: 60 mins

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Question 1 of 2 (20 Marks)

You have given your research assistant a data set to analyse. The output from this analysis is attached. Your task is to report the results in APA format.

When answering this question, keep in mind you will need to state what analysis was conducted and interpret the output. Note there might be materials that your research assistant has not provided you with and you need to mention what these other requirements might be.

Ensure you read ALL elements of this analysis, which continues across more than one page.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.790
Bartlett's Test of Sphericity	Approx. Chi-Square	819.746
	df	45
	Sig.	.000

Communalities

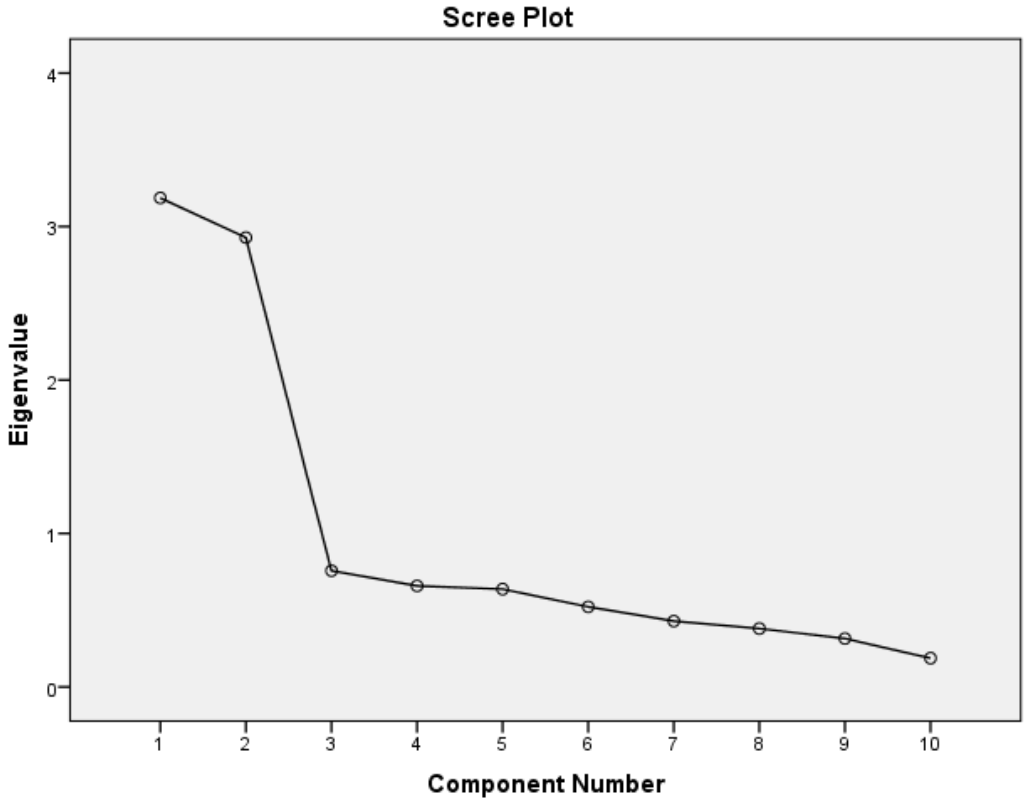
	Initial	Extraction
I feel enthusiastic	1.000	.566
I have lots of friends	1.000	.569
I love meeting people	1.000	.482
I feel full of energy	1.000	.646
I have lots of interesting things to do	1.000	.421
I have a lot to look forward to	1.000	.682
I want to contact friends & family	1.000	.701
I want to go out and party	1.000	.796
The people at work inspire me	1.000	.608
I feel excited at the start of each day	1.000	.645

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.186	31.862	31.862	3.186	31.862	31.862	3.170	31.699	31.699
2	2.928	29.279	61.140	2.928	29.279	61.140	2.944	29.442	61.140
3	.757	7.569	68.710						
4	.658	6.583	75.293						
5	.637	6.369	81.662						
6	.522	5.220	86.882						
7	.429	4.290	91.171						
8	.380	3.801	94.973						
9	.316	3.155	98.128						
10	.187	1.872	100.000						

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Component	
	1	2
I want to go out and party	.869	-.202
I want to contact friends & family	.816	-.187
The people at work inspire me	.758	-.180
I have lots of friends	.726	-.204
I love meeting people	.668	-.189
I feel full of energy	.130	.793
I have a lot to look forward to	.246	.788
I feel excited at the start of each day	.242	.766
I feel enthusiastic	.260	.706
I have lots of interesting things to do	.115	.638

Extraction Method: Principal Component Analysis.
a. 2 components extracted.

Rotated Component Matrix[a]

	Component	
	1	2
I want to go out and party	.892	.022
I want to contact friends & family	.837	.024
The people at work inspire me	.779	.016
I have lots of friends	.754	-.015
I love meeting people	.694	-.015
I have a lot to look forward to	.040	.825
I feel excited at the start of each day	.042	.802
I feel full of energy	-.073	.801
I feel enthusiastic	.074	.748
I have lots of interesting things to do	-.049	.647

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Question 2 of 2 (20 Marks)

You have given your research assistant a data set to analyse. The output from this analysis is attached. Your task is to report the results in APA format.

When answering this question, keep in mind you will need to state what analysis was conducted and interpret the output. Note there might be materials that your research assistant has not provided you with and you need to mention what these other requirements might be.

Ensure you read ALL elements of this analysis which continues across more than one page.

Descriptives

beliefs about own inability to cope

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
General Anxiety	17	13.2353	5.10550	1.23827	10.6103	15.8603	6.00	23.00
Depression	14	19.9286	4.37588	1.16950	17.4020	22.4551	13.00	28.00
Control	18	10.7778	5.99564	1.41319	7.7962	13.7593	4.00	23.00
Total	49	14.2449	6.39508	.91358	12.4080	16.0818	4.00	28.00

Test of Homogeneity of Variances

beliefs about own inability to cope

Levene Statistic	df1	df2	Sig.
1.311	2	46	.279

ANOVA

beliefs about own inability to cope

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	685.963	2	342.981	12.354	.000
Within Groups	1277.099	46	27.763		
Total	1963.061	48			

Multiple Comparisons

Dependent Variable: beliefs about own inability to cope

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
General Anxiety	Depression	-6.69328*	1.90163	.003	-11.2987	-2.0879
	Control	2.45752	1.78200	.360	-1.8582	6.7732
Depression	General Anxiety	6.69328*	1.90163	.003	2.0879	11.2987
	Control	9.15079*	1.87762	.000	4.6035	13.6981
Control	General Anxiety	-2.45752	1.78200	.360	-6.7732	1.8582
	Depression	-9.15079*	1.87762	.000	-13.6981	-4.6035

*. The mean difference is significant at the 0.05 level.